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ROCKS AND MINERALS

A Magazine for Mineralogists, Geologists and Collectors . . .

Official Journal of the Rocks and Minerals Association

March, 1941

Vol. 16, No. 3 Twenty-Five Cents Whole No. 116

THE ROCKS AND MINERALS ASSOCIATION

PEEKSKILL, N. Y.

President, R. Emmet Doherty — **Director of Outings (to be appointed)**

Vice-President, Ronald L. Ives — **Director of Tours, Richmond E. Myers**

Secretary-Treasurer, Peter Zodac

Organized in 1928 for the increase and dissemination of mineralogic knowledge

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To stimulate public interest in geology and mineralogy and to endeavor to have courses in these subjects introduced in the curricula of the public school systems; to revive a general interest in minerals and mineral collecting; to instruct beginners as to how a collection can be made and cared for; to keep an accurate and permanent record of all mineral localities and minerals found there and to print same for distribution; to encourage the search for new minerals that have not yet been discovered; and to endeavor to secure the practical conservation of mineral localities and unusual rock formations.

Ever since its foundation in 1928, the Rocks and Minerals Association has done much to promote the interest in mineralogy. It has sponsored outings, expeditions, formations of mineralogical clubs and the printing of many articles that have been a distinct contribution to mineralogy.

Those of our readers who are members of the Association can rightly feel that they too were sponsors of these many achievements that have helped to give mineralogy a national recognition. Among your frineds there must be many who would like to have a part in the Association's work—to share with you the personal satisfaction, the pleasure, and the benefits of membership. Will you give your friends this opportunity to join the Association by nominating them for membership?

Each new member helps to extend the Association's activities—helps to make your magazine larger, better, and more interesting, and above all assists in the dissemination of mineralogical knowledge.

Some advantages of membershpe: All members in good standing receive:

(1) **Rocks and Minerals**, a monthly magazine. (2) A member's identification card that secures the privileges of many mines, quarries, clubs, societies, museums, libraries. (3) The right to participate in outings and meetings arranged by the Association. (4) The right to display a certificate of membership and to place after their names a designation indicating their membership or to advertise membership on stationery, etc. (5) The distinction and the endorsement which comes from membership in the world's largest mineralogical society.

Mineralogical clubs which subscribe for **Rocks and Minerals** also become affiliated members of the Rocks and Mineral Association and enjoy all the advantages which such an affiliation affords.

A number of clubs hold membership in the Association, participate in the annual outings, and co-operate in many ways in furthering the aims and ambitions of the Association.

Affiliation with the world's largest mineralogical society cannot fail to increase membership, enlarge circles of acquaintanceship, and stimulate a keener interest in mineralogy.

A list of affiliated clubs will be found among the back pages of the magazine.

Rocks and Minerals

PUBLISHED MONTHLY

Edited and Published by PETER ZODAC

March 1941

Contents for March, 1941

CHIPS FROM THE QUARRY 74

NOTES FROM THE WEST. *By Clark Harrison* 75

BY-PATHS IN GEMS. *By Nicola Goodwin D'Ascenzo* 79

U. S. WELL SUPPLIED WITH INDUSTRIAL JEWELS 91

RHENIUM-BEARING MOLYBDENITE IN NORTHERN WISCONSIN. *By Mrs. L. P. Works* 92

E. W. BLANK HAS LEADING ARTICLE IN MAGAZINE 93

A TRIP THROUGH THE SOUTH. *By Dr. L. Prescott Brown* 94

NEW ENGLAND NOTES. *Conducted by Rudolf C. B. Bartsch* 96

CLUB AND SOCIETY NOTES—

- NORTHERN CALIFORNIA MINERAL SOCIETY 97
- BRIDGEPORT MINERAL CLUB 97
- MINERALOGICAL SOCIETY OF ARIZONA 97
- NEWARK MINERALOGICAL SOCIETY 97
- WESTERN NEVADA MINERAL SOCIETY 98
- NEW HAVEN MINERAL CLUB 98
- PLAINFIELD MINERALOGICAL SOCIETY 98

OBITUARY NOTICE—

- DR. L. C. WILLS 98
- HERBERT L. THOWLESS 98
- HERMAN WUESTNER 98
- MISS EVELYN F. MURRAY 98

COLLECTOR'S KINKS. Removing clay from crystals with oxalic acid 99

AMERICAN MUSEUM LECTURES 99

WITH OUR DEALERS 100

COLLECTORS' TALES. (Better be sure than be sorry). *By Peter Zodac* 101

INDEX TO ADVERTISERS 111

CLUBS AFFILIATED WITH THE ROCKS AND MINERALS ASSOCIATION ..... Third Cover

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ROCKS and MINERALS PEEKSKILL, N. Y., U. S. A.

The Official Journal of the Rocks and Minerals Association

Chips From The Quarry

CARELESS RECORDING OF LOCALITIES

In the examination of mineralogic literature much confusion frequently arises from the loose manner in which localities have been reported. A section which may contain a number of mines or quarries is often listed apparently as a single occurrence. Sometimes a village or township and a county, or a village and a state have the same name and it frequently happens that the village or city is not in the county of the same name nor even in the state. For example, Chester and Delaware are two counties in Pennsylvania noted for minerals. Chester is also a large city in Delaware County. We have frequently run across minerals recorded from Chester, Penn. Was the locality the city of Chester or Chester County? Worse still, we have run across items in which chromite or serpentine was listed as coming from Texas. To the uninitiative this would mean the State of Texas; to the one who knows, it is Texas, Lancaster County, Penn.

Another instance are the frequent references to chondrodite and clinochlore as coming from the Tilly Foster Magnetite Mine, Brewster, N. Y. The Tilly Foster Magnetite Mine is in the village of Tilly Foster, two miles west of Brewster, a much larger village. As a matter of fact, a large but practically unheard of magnetite mine (abandoned) is in the very center of Brewster but because it produced no interesting minerals it failed to receive any mineralogic notice.

Judging from a number of reports, lansfordite and nesquehonite occur in two distinct localities—villages of Lansford and Nesquehoning, about 4 miles apart, in eastern Pennsylvania. Both minerals occur together and at one locality only,—in a coal mine tunnel in Nesquehoning. Lansfordite was found some years ago by a college student (one of a group who had made Lansford its headquarters). When it was discovered that the mineral

was a new species, the student could not recall its exact locality except that it was found around Lansford, it was named lansfordite. A short time later the exact locality was found and at it another mineral which received the name nesquehonite. But why did some of the later reports persist in featuring two localities?

In the Catskill Mountains of New York there are a large number of sandstone (bluestone) quarries. One locality bears two names. Its post office name is Allaben; its railroad name is Shandaken. Allaben and Shandaken are two tiny villages side by side. Some few years ago when the railroad made plans to build a new station for Shandaken it moved the site to Allaben which had none. The post office and railroad station in Allaben are about one block apart. Fortunately for collectors nothing much of mineralogical interest occurs here, but if it did the two names might prove very confusing.

At Oneco, Conn., are two granite quarries, Oneco and Marriott, which have produced a number of interesting speci-

(Continued on page 101)

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Whole No. 116

NOTES FROM THE WEST

By Clark Harrison

(West Coast Correspondent for ROCKS and MINERALS)

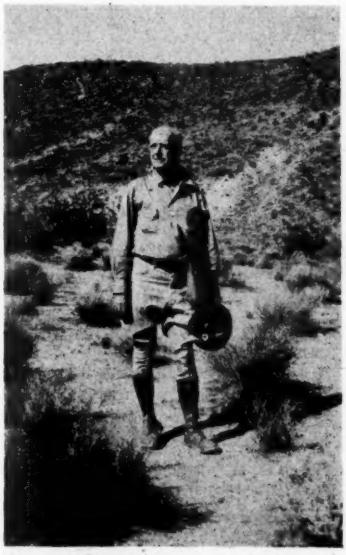
Ogilby, California

This is a ghost town of about 200 inhabitants, situated only a few miles from the Mexican border. It is the hub of a great mining district little heard of. The principal mines today produce talc, gold and copper ores. Good cyanite is abundant. Once this was a boom town containing some 5000 people. Immense mining activity pronounced its heyday then; but mining is not what it used to be and the region now has only a few active mines.

The Imperial Valley Gem and Mineral Society of El Centro, California, believes in the idea of joint field trips with other societies. Among the advantages of this idea is the fact that the host society is acquainted with the minerals in their district, and can more easily gain egress upon properties that may be closed to the public.

On January 18, 19, 1941, the Pacific Mineral Society, Inc., of Los Angeles, and the Imperial Valley Society made a joint two-day field trip into this district, securing some very nice crystals, and minerals. The leader of the Imperial Valley Society was Arthur L. Eaton, mineralogical editor for Desert Magazine, and professor of mineralogy in the Holtville high school. Mr. Eaton has 30 cases of fine specimens on display at the school.

The Los Angeles group was led by their president, R. H. Milligan, who is an X-ray specialist. He hails from Norfolk, Nebraska, originally. Milligan led his group over the 300-mile trip on Saturday morning. They met the Imperial Valley group at noon at Holtville. From here they drove over to Yuma, Arizona, to study geological variation. Next, they went to Ogilby, California, and from there headed out into the Cargo Muchacho mountains. The Vitrifax property was visited, where some fine specimens of cyanite was secured. A five-mile drive to the north brought them to their camping place for the night—at the site of the American Girl mine.



R. H. Milligan, President of the Pacific Mineral Society, Inc., and well-known mineralogist of Los Angeles, Calif.

The night was comfortably warm, and the mineralogists sat around a huge roaring campfire exchanging experiences. Mr. Eaton, of the Imperial Valley Society talked over two hours, relating especially his experiences in Old Mexico, where, as an archaeologist, he uncovered an ancient city. He told how one century after another could be traced as he and his pardner uncovered one terrace or layer after another, recovering articles and relics of the early Indians, from one generation to another. The journey back went to about 2000 years ago.

The next morning, the superintendent of the American Girl mine took the group through some of the mines, permitting them to take away specimens. Millions of dollars in gold have been taken from this mine. In a canyon nearby they found several very fine quartz crystals, doubly-terminated, about ½ inch thick and one inch long. Amethyst has been found in this locality.

Next they visited the talc mine nearby, where unusual specimens of talc with pyrophyllite and crystals of limonite pseudomorph after pyrite were collected. Another mine visited was on the Tunco property, rich in gold and copper ores. Here was found chrysosolla, azurite, malachite, and other copper ores; some of the azurite occurred in good crystals.

There were 30 collectors in the Los Angeles group and 20 in the other one.

Newport, Oregon

Newport Beach is a very unusual place where people from all over the United States come to hunt for jaspers, agates and other stones which are thrown up on the sands by the rolling waters of the Pacific Ocean. Of course, Oregon has many other beaches that are famous. In summer, the sand is washed up on these beaches, burying gem stones up to several feet deep. In winter, storms cause the waters to carry this sand away, revealing the treasures. This season was a little late in "breaking".

At one part of this beach, in a huge room on a bluff, overhanging the Pacific Ocean, is the novel meeting place of the Newport Agate Society. This spot is kept open during the tourist season as a refuge and information bureau for visitors. A Seth Parker atmosphere seems to envelope the cozy place, when a cheery fire is roaring in the great fireplace, and the wild surf is pounding against the foot of the cliff.

The following club officers were reelected for another year: Will L. Grigsby (Newport), President; Mr. Peterson (Agate Beach), Vice-President; Walter Duvaney (Toledo), Second Vice-President; Nettie Adkinson (Newport), Secretary; Mrs. Laura Grigsby (Newport), Treasurer.

Indio, California

On February 20-23 inclusive, 1941, the Riverside County Fair and Desert Festival will be held at Indio, California. One of the big attractions will be the gem and mineral exhibits. More than $200 in prizes, as well as ribbon awards, are offered. The four classifications which will present the greatest interest are: (1) Best and most interesting display of mineral resources, gems and gem materials by any individual or organization. First prize is $50 and a trophy. Fourth prize is $25. (2) Best display of uncut gem material occupying not more than 24 inches square. First prize is $10; fifth is $4. (3) Best display of cut and polished gem material not over 24 inches square. First, $10; fifth, $4. (4) Best exhibit of mineral samples from a locality whose combined mineral production was less than 1000 tons of crude ore during 1940. Ribbon awards.

Roseburg, Oregon

An earth science organization—UMPQUA MINERAL CLUB—recently founded, has its headquarters at Roseburg, and meets on the second Thursday of each month. The Club is affiliating with the Northwest Federation. Leslie Roberts is President and Harold Printz is Secretary. Visiting collectors are welcome, so we'll be seeing you!

Phoenix, Arizona

The Mineralogical Society of Arizona meets on the first and third Thursday of each month at the Arizona Museum on West Van Buren Street. Officers include

A. L. Flagg, President; Luther Steward, Vice-President; George G. McKhann, Secretary-Treasurer. Visitors are welcome, and if you are passing through there with a little time on your hands, these boys can really show you some fine collections. They are constantly making field trips to important places. It has been said that more natural wonders have been found in this state than in all other states combined. Among some of the trips made last year was a visit to the Fourth of July Butte area (Clam shell geodes); Agate Field north of Phoenix; and the Silver King mine near Superior. The Arizona Museum is an institution devoted to scientific, archeological and historical interests, and to the preservation of material and specimens in these fields. An interesting place, and plenty of collections, as well as specimen territory.

Los Angeles, California

The Second Annual Western Mineral Exposition will be held in Los Angeles February 15 to 22, in the Chamber of Commerce building. George I. Holmes, President, and John Herman, General Manager, promises that this will be a greater event than last year, which was a crowning success. In fact it is expected to be bigger and better than the Golden Gate Exposition last year at San Francisco. Any one so inclined will have a chance to put on rubber boots and wade out into a gravel pool and pan gold for themselves. Two tons of high grade ore (ground) will be mixed with gravel so that every amateur prospector can get some color. More than 50,000 specimens from all parts of the world will be on display, and everything will be shown in the way of commercial equipment. The exposition will again have on display a $50,000 gold leaf and wire from the Mother Lode. There will be native Indian pottery makers, and Navajo Indians making silver and turquoise jewelry, and —well, I saw last year's exposition, and it's worth traveling a thousand miles to see..

Colorado

If you believe Colorado is lagging in the mineral society idea you should have been on a recent field trip of the Colorado Mineral Society when they made an expedition to the Lindemeier Site, the only known camp of Folsom Man. More than 150 persons in 50 cars composed the caravan.

California

Four new societies recently admitted into the California Federation of Mineralogical Societies were: Santa Monica Gemological Society; San Fernando Valley Mineral Society; Santa Maria Rock and Mineral Club; and The Empire Society (of Chico). Two other groups are considering affiliation, which if they join will make the California Federation the largest federation of mineral clubs in the United States, with 25 member groups.

Imperial, California

The Imperial County Fair will be held March 1 to 9, 1941, at Imperial, California. This promises to be one of the county's most interesting fairs. A large play will be made towards gems, minerals and non-metallic ore with $549 in prizes. Prizes are offered for gold, silver, copper and iron specimens, variety displays, asbestus, magnesite, soapstone, talc, clay, limestone (and products) petrified wood, spotted gem materials, cut and polished gem materials, etc.

Burns, Oregon

For some time our National Defense experts have been worried about our shortage of certain minerals, called strategic minerals, such as tin, nickel, mercury, etc. They have placed men in the field to try and locate big deposits of these minerals, for which we have to depend upon foreign countries. For instance, this country uses about half of the world's supply of tin (which is used widely in war materials), and we produce very little of it. Also, heretofore, our tin came from England, where it was smeltered from the ores, because we had no recovery plants here. Now a 2000 acre lava field near Burns has become prominent, because it is reported that there is enough tin occurring in the lava to last the United States for ten years. The deposit was found by O. F. Selle about 10 years ago. With experimental test plants they have recovered 34 to 49 pounds of metallic tin to the ton.

A GEM CAMEO OF THE HIGHEST DEGREE OF ARTISTRY AND SKILL

The subject is the lovely Helen, reputed to have been the most beautiful woman in all the world, and the innocent cause of the Trojan war.

The material is onyx; pure dazzling white on dark yellowish grey. Enlarged from the original.

D'Ascenzo Collection
Photo by Dillon, Philadelphia.

BY-PATHS IN GEMS

By NICOLA GOODWIN D'ASCENZO

In the presentation of this rather brief composition, I naturally take it for granted, that gems of all sorts hold a definite appeal for the laity, as well as those of deeper knowledge, and therefore perhaps, a keener appreciation. But somehow I find it to be a fact, that the rare, the unusual, the odd, wields a hypnotic power not easy to describe; it seems as though nature is the never-tiring, everlasting magician, taking great delight in the opening of a new bag of tricks, for our continuous confoundment.

Being personally of a naturally inquisitive disposition (and I know I am not alone) I find myself continually on the alert for a new foot-hold on this craggy mountain of mineralogy. Indeed, I find the guides too few who know the way. But this serves only as added zest to get off the beaten track, and search the by-paths for the "blooms" as yet unplucked. In truth, I find there such myriad treasures, that the choice becomes the problem, which however, one's taste (and pocketbook) does the choosing for him. I find also, that gnarled roots were grown to trip those of little perspicacity. Graciously we must acknowledge, that the tuition in the college of experience, has not been reduced on account of the depression.

Per-force, therefore, we must get down to earth, in more ways than one, in order to collect the minerals and gems. We must chart the course of the collection and get to work. and infants that we are, invariably begin by trying to conquer the world, though swiftly learning what a big place we really live in. In time, we finally get at the meat of the nut (or vice versa) to find the taste surprisingly to our liking.

We also find, if we open our ears and our eyes, that we are constantly learning something about this "boy" of ours, that is growing up to be quite a collection; indeed we find something besides tops and marbles in his pockets; we find lots of things that only our "boy" can tell us about. Yes, the day we start taking pride in it (justified pride mind you) we find we have a collection indeed; yes, may I add, an ever youthful collection. Nature never grows old, primarily of course because of the indestructibility of matter. Something new is always being made out of something old; even as complete as is the list of transparent gems here following, there will be others added to it, never for a moment doubt.

But speaking of gem collections in general, there are indeed many types and kinds; at least the proverbial "one hundred and one," of which number I have been privileged to see and admire a great many. Those comprising the more colossal stones, such as the 105 carat honey-yellow Deepdene Diamond, are usually seen in the museums, and but rarely in private collections. This particular stone, I am glad to tell you, is on display in our own Academy of Natural Sciences in Philadelphia. Here also one may see truly magnificent Kunzites, sublime Sapphires, imperial Opals, queenly Pearls and an exotic Chrysoberyl cat's eye, to mention but few of a very choice collection. Here are gems grand in size and superb in quality; stones that seem to wink at you and say, "Come up and see me again some time."

Then there are also collections of single species and varieties thereof, such as Diamond, Sapphire, Opal, Tourmaline, and so forth, which exemplify those that offer many intriguing opportunities to the enthusiastic collector. Take Diamond for instance, for here indeed is the King of gems. A Hindu sage once said that when one purchased a Diamond, one bought a portion of eternity. And it is indeed so, for with normal care a Diamond will in truth, last to the end of time. This autocrat of gems with its scimitar-like gleam and rainbow-hued reflections, would undoubtedly be first choice, particularly for a hand-worn stone. It is the hardest substance known, and many, many times harder than Sapphire, its nearest rival in this respect. The hardness of Diamond in Mohs' scale (often misspelt Moh's) is given as 10;

Sapphire 9, Topaz 8, Quartz 7, etc., but actually, to be in keeping with the scale, the hardness of Diamond should be nearer 1000 because it is at least that many times harder than Sapphire. The relation of the hardness of the other minerals to each other is more nearly correct although many different opinions are extant, the sclerometer notwithstanding. But even the hardness of Diamond can vary. The stones from Borneo are the hardest known, Australian stones second, South American third, and the African stones the least hard. Nevertheless, any Diamond is still harder than anything else, but it can be cleaved as well as chipped, and it is therefore well to exercise ordinary care in the handling of it. Indeed, most everything seems to have its Achilles heel. The cleavage is so highly perfect in the Diamond that a sharp blow in the right place is all that is necessary to split the stone. But here are possibilities, though rare, in many striking colors. The colors however, are usually fairly pale in character, i.e., yellow, orange, lavender, pink, red, green, blue, brown and sometimes black; the pink and red being by far the most rare. The green has also been produced artificially by subjecting the yellowish or brownish stones to Radium salts in a vacuum.

I mention Sapphire next simply because of the amazing variety of gems that is offered the collector. Here the color varieties especially, offer nearly limitless possibilities, from colorless material to nearly black. The rarest color however is orange, and this particular Sapphire is known as the Paparatka. The original name was Padmaragaya, from Padma, meaning Lotus and Raga for color. Then came the change in German to Padparaschah, which accounts for its present

A GEM CAMEO OF SARDONYX

The subject is the venturesome Paris, son of the lusty Priam, King of Troy. It was he who abducted the beautiful Helen.

Beginning at the base, the material is dark yellowish grey, then white, yellow, red, and finally, the pinkish-purple lion's skin head-dress. The entire face is beautifully polished, and the piece is signed by Girometti. Enlarged from the original.

D'Ascenzo Collection
Photo. by Dillon, Philadelphia.

form. Most everyone is of course familiar with the rare pigeon-blood Ruby and the cornflower or Kashmir blue. As the color diminishes in clarity and intensity, so should the price become less in dollars, also of course taking into consideration the perfection of actual material. Bi-colored gems of blue and yellow, and perhaps other colors, may also be had at rare intervals.

Star Sapphires and Rubies are always interesting, and some are so large and fine as to be nothing less than spectacular. A visit to the Museum of Natural History, in New York City, should be sufficient to convince even the most skeptical, for here may be seen some of the largest and finest in existence. The twelve-rayed star is however the most rare of this variety, indeed, one of the most rare of all gems. The one I have is a very dark brown, the phenomenon being due to twinning.

From the standpoint of color possibilities in faceted stones I believe that Tourmaline should next be discussed, although it has never enjoyed the doubtful distinction of being called a precious stone. This latter term was unquestionably created by an obscure jeweler for designation of stock, and should never have a place in the discussion of gems. A gem is something that is even too precious to wear, whereas a precious stone is merely the commercial description of an expensive object of personal embellishment. It is perfectly possible to have a gem in any species, depending on the excellence and rarity of the material. But before we wander too far, let us get back again to Tourmaline. The best authority tells us that it is a complex silicate of Boron and Aluminum, with Magnesium, Iron and alkali metals. The mineral is fairly hard, being 7 to 7½ i.e., just above Quartz. And the colors! Some I have seen (and have) are positively luscious! Particularly am I enamored of the bi-colored varieties, which are usually green and pink, though occasionally one may see crystals containing narrow zones of black, colorless, yellow, pink, green and blue, either parallel or perpendicular to the prism faces. The "watermelon" variety usually has a pink center, then a zone of yellow and finally green on the prisms, which material cuts interesting stones of distinctive quality. A Tourmaline of mine which is worthy of special mention, is a 27.48 carat stone which is about 95 per cent Achroite, or colorless. A very small area of deep reddish-pink however, at the culet, throws the color perfectly throughout when viewed from the table, and one has the impression of a deep, rich, raspberry-red gem; thanks to the excellent and painstaking cutting by William Pfoser, well known New York lapidary. Cat's eye Tourmaline may also be had but is most often seen in green material. If you need further impetus, perhaps quoting the color possibilities directly from Dana will give it to you, viz., "color black, brownish-black, bluish-black, most common; blue, green, red, and sometimes of rich shades; rarely white or colorless; some specimens red internally and green externally; and others red at one extremity, and green, blue or black at the other; the zonal arrangement of different colors widely various both as to colors and to crystallographic directions," which seems to more or less bear out the complexity of the chemical composition.

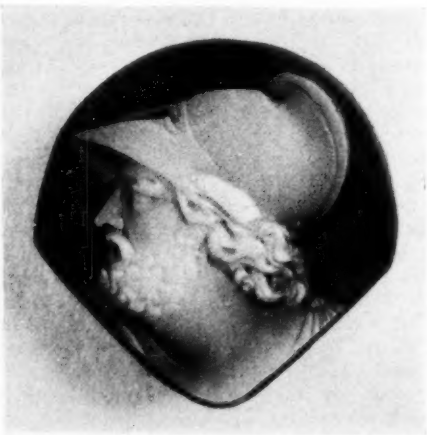
I think that by now the reader has been sufficiently prepared for color variety, so we will proceed to let down the gates of prejudice and usher in the Opal. Here indeed are endless possibilities in combinations of rich or mellow multi-hued color, yea verily, it seems that the tropical butterflies, tropical fish and coral gardens have all lent a part of themselves, to be put into a solid form for our more permanent enjoyment. If you are thinking of buying an Opal however, examine it carefully first for minute cracks. If the stone shows any at all discard it at once, for in time, further cracks are sure to develop, rendering the material worthless, as it will probably finally go to pieces entirely. This is due of course to the fact that an Opal may contain as much as 10 per cent water, which, as it dries out, produces the cracks. Even the Opal which is purchased in perfect condition may develop cracks; the safest procedure being to keep the stone in a moist atmosphere. Our own state of Nevada produces beautiful Opals but they crack immediately upon being taken

from the earth, it being necessary to drop them into a pail of water as soon as collected. Small portions which do not crack however, make very fine and highly colorful stones, though not nearly approaching the excellence of the Australian or Mexican material. The hardness is fairly low, being 5½ to 6½.

And now having run quite a preliminary gamut I bring you Emerald, the undisputed queen of gems. Here indeed is regal beauty, clothed in a garment of magnificent velvety green; but I speak of the true gem Emerald mind you, not by any means do I even remotely refer to the usual and prevalent substance designated as such. The superfine material above-mentioned, in fairly large stones, has sold for as much as four thousand dollars per carat, which material you may therefore accurately judge, is to be seen on only very rare occasions. This unique family of Beryl gives us other colors too, besides the emerald green; the sea-green and light blue being especially well known as Aquamarine. Sometimes however, the deep, greyish-blue stones are attained through heat-treating, but if subjected to too much heat the color goes out entirely, simulating the naturally colorless Goshenite. The golden color of Beryl is very pleasing also if a rich shade, but perhaps the collector might rather incline toward the pink to rose-red instead, and if so, the rare Morganite is sure to satisfy. If there is any inclining to do however, I am afraid that you would find me leaning far over in favor of a cat's eye Emerald, which stone is known to exist, but rarely seen. The hardness is 7½ to 8, which is durable.

Chrysoberyl, or Cymophane, is not considered after Beryl because of any similarity, (since the latter is a silicate and the former an oxide) but rather because of its interesting possibilities. The colors are pale yellow, green, brown, and inter-mixed shades. Faceted stones, carefully selected for their purity and depth of color, are always a welcome addition to any collection. The cat's eye however, is perhaps better known since it is most always referred to as Chrysoberyl,

A GEM CAMEO OF ONYX



The subject is the kind and noble Pericles. Under his democratic precepts, Athens rose to heights of peace and glory never attained before or since.

A magnificient example of delicate carving, as the original is only 9/16 ths of an inch wide. The base is dark grey and the carving is bluish-white.

D'Ascenzo Collection.
Photo. by Dillon, Philadelphia.

or Oriental, or Precious Cat's eye. The color that a fine stone should be is a golden honey yellow, with a very slight greenish tint allowable. Truly pulsatingly enthralling are large stones of this quality, and always in demand by the discriminating collector, with the requisite amount of cash. Alexandrite is another variety, which owes its name to Czar Alexander I, of Russia, and was discovered in the Ural Mountains during his reign, and therefore necessarily prior to the year 1825. This remarkable mineral is green in daylight, changing to a raspberry or columbine-red in artificial light, the phenomenon being due to a very delicate balance in the property of color absorption. Fine stones are a great rarity, but perhaps the most rare of all is the Alexandrite cat's eye, which is exactly what the name implies. The single line of chatoyancy of the cat's-eye, in the above instances, is caused by the light reflecting from myriad microscopic hollow tubes to the cabachon-cut surface. The hardness is 8½ which renders the material even more durable than precious Topaz or Beryl.

And since we have just mentioned Topaz we take pleasure in next presenting this noble, though much abused species. Unfortunately, through confusion with citrine Quartz, the Topaz is generally known as a yellow stone. The precious Topaz however, is very rarely yellow, the color possibilities being: colorless, straw - yellow, wine - yellow, greenish, bluish, and reddish; definite colors of green and red being the most rare. A beautiful pink is also obtainable by heat-treating the yellowish Brazilian crystals. Precious Topaz is capable of furnishing truly magnificent gems, but nevertheless rarely seen in the jewelry store. The material will wear well, having a hardness of 8.

Zircon, originally called Jargoon, from Zar (gold) plus Gun (color) is a gem of fairly recent popularity, especially since it was found that heat-treating the plentiful brownish material would produce the well known blue, and bluish-green stones. It may be colorless, yellow, orange, green, and brown; light violet and red being the most rare. The colorless gem, will, to the lay person, probably appear to rival the Diamond in brilliance, but should one ever be in doubt, try blowing your breath on the stone and you will find that the resultant moisture will momentarily cling to the Zircon, but not to the Diamond. It is also a good plan to keep your fine blue stones in the shade, since over-long exposure to the Sun will sometimes partly decolorize them. It is also suspected that heat-treating affects the hardness, since the stones should wear much better than they do, having a hardness rating of 7½. As the stone possesses out-of-the-ordinary brilliance, fine large stones are collected with enthusiasm, though to find the rarer colors is not an easy task.

Garnet (darn it). To begin the description of a harmless mineral with an oath is, I admit, rather unusual. On the surface this may appear undeserved, but let us look into the mater more closely. The following is quoted directly from L. J. Spencer, who undoubtedly had his tongue thrust quite firmly in his cheek. I quote as follows: "They (the Garnets) afford an excellent example of isomorphous mixtures in minerals. The general formula of all garnets may be written $M^3R^2Si^3O^{12}$, where M stands for the bivalent metals, calcium, magnesium, ferrous iron, or manganese; and R for the trivalent metals, aluminum, ferric iron, chromium, or manganese. With these components we can build up quite a number of compounds, the more important of which are as follows:

Calcium-Aluminum-garnet=Grossular.
Iron-Aluminum-garnet=Almandine.
Magnesium-Aluminum-garnet=Pyrope.
Manganese-Aluminum-garnet = Spessartine.
Calcium-Iron-garnet=Andradite.
Calcium-chromium-garnet=Uvarovite.

Only exceptionally, however, does the composition of a garnet correspond with these simple formulae. When analysed they are found to be a mixture in indefinite proportions of two or more (or even all) of these molecules.--- Being a cubic mineral, garnet should normally be optically isotropic, but it frequently shows feeble birefringence (double refraction). This is due to strain and a

zonal structure of the crystals, the several zones or layers being of different chemical composition. A crystal may have started its growth as grossular, but with changing conditions of feed, successive layers may be richer and richer in iron until it finishes off as almandine. With these variations in chemical composition there is no sharp line between different kinds or species of garnet; and, indeed, it is not always an easy matter to distinguish the different kinds, which grade into one another." End quote. And now, since we are exactly ? certain of our direction, let us consider for a moment the color possibilities, which may be colorless (rarely), pale green, emerald - green, pink, rhododendron - pink, honey - brown, reddish - yellow, various shades of red, and finally, black. Demantoid, with a dispersion greater than that of Diamond, is the rich yellowish-green and may be had, on occasion, in fairly large stones. Rhodolite, the rhododendron-pink, is also much sought for, as is the reddish-yellow Hessonite. The other varieties, with the exception of the well known deep fiery red, may be had only in sizes of little consequence.

But of great consequence indeed is the star garnet, which may be had, though rarely, in either a four, or six-rayed star, depending of course on how the rough material is cut. It is suspected that the minute inclusions, which reflect the star, lie in a parallel position to the faces of the basic dodecahedron. The hardness is 6½ to 7½.

Gentlemen, the garnet! Simple little soul, isn't he?

A GEM INVERSE CAMEO

The subject is General "Mad Anthony" Wayne, pictured during middle life.

A band of pure white curved into the sard and thus the cameo sculptor gave us a masterpiece in every respect, though in reverse so to speak, as the white portrait is below the top level of the stone. The original is only 19/32 nds of an inch wide.

D'Ascenzo Collection.
Photo. by Dillon, Philadelphia.

Thus do we wander further into the ever-shimmering glade, next to find Spodumene (or Triphane). The familiar gem variety is of course the well known pale to full-bodied ameythystine, or reddish-violet or lilac hued Kunzite, which can be a gem of magnificent proportions as well as color. The colors may also be colorless, yellow, or emerald-green, the latter being the rare Hiddenite; the only known locality by the way (for the latter) being near Stony Point, in Alexander County, North Carolina. The mineral is fairly durable, having a hardness of 6½ to 7. Cutting is rendered difficult however because of cleavage in two directions, and for this reason also, dropping a stone on a hard surface would likely prove disastrous.

Chrysolite, Olivine, and Peridot are all one and the same. Large fine stones of an olive-green color have been cut, as well as a brilliant apple-green. Brownish-green stones of a muddy appearance are of course known, but a true brown would be a great rarity. The hardness is the same as Spodumene, being 6½ to 7.

Having thus considered the better known species, let us now begin with Sphalerite, which we will consider for the start of a discussion on the lesser known, and consequently lesser appreciated gem species. This mineral happens to be the most important ore of Zinc (a zinc sulphide) and is, despite the tremendous quantity available very rare in transparent, flawless material. Yellow is to be seen more often than red, and the hardness (or better, the lack of it) of 3½ to 4, plus highly perfect cleavage, renders the mineral most difficult to cut, but the result is well worth the effort.

Willemite, a zinc orthosilicate, is also a gem possibility, and the pale yellow material is only superceded in its rarity by the yellowish-orange to orange-red. It is harder than Sphalerite, being 5½.

Phenacite, a beryllium orthosilicate, is more often seen as colorless material than the rarer wine-yellow or pale rose red. With a hardness of 7½ to 8, it is durable, and when properly cut is a beautiful and brilliant gem.

Wernerite (Scapolite) is one of the Scapolite group analogous to the Feldspars. The common color is yellow, but bluish, greenish and reddish are also possible. Fine pink as well as blue cat's eyes are also known, but are a great rarity. The hardness is only 5 to 6.

Andalusite, a silicate of Aluminum, is a rare colorless gem possibility, the opaque variety Chiastolite being the well known form. The hardness is 7½.

Sillimanite or Fibrolite, with the same chemical composition as Andalusite, can be green, and pale blue. The mineral is softer however, being 6 to 7.

Kyanite, Cyanite, or Disthene is bladed in structure, and is unique in that a crystal of this mineral has three distinct hardnesses, ranging from approximately 4 to 7. The front pinacoid has a hardness of 4 to 5, from North to South, but with a hardness of 6 to 7 from East to West; the side pinacoid has a hardness of 7 in any direction. The above properties render the material quite difficult to cut. The colors can be green, blue, grey, or black; deep blue being preferred. The chemical composition is also identical with Andalusite and Sillimanite.

Epidote has at times produced crystals of sufficient size to cut, deep green or brown being the colors usually seen. Red or yellow are possibilities, but rare. The hardness is 6 to 7.

Zoisite, another basic orthosilicate, gives us about the same color possibilities as Epidote, but paler in quality. The hardness is 6 to 6½. Clinozoisite is another of this series and provides us with colorless material on very rare occasions.

Beryllonite is another rare mineral local to the United States, being found only in Oxford County, Maine. The colorless material will cut brilliant gems; pale yellow is also known. The hardness is 5½ to 6.

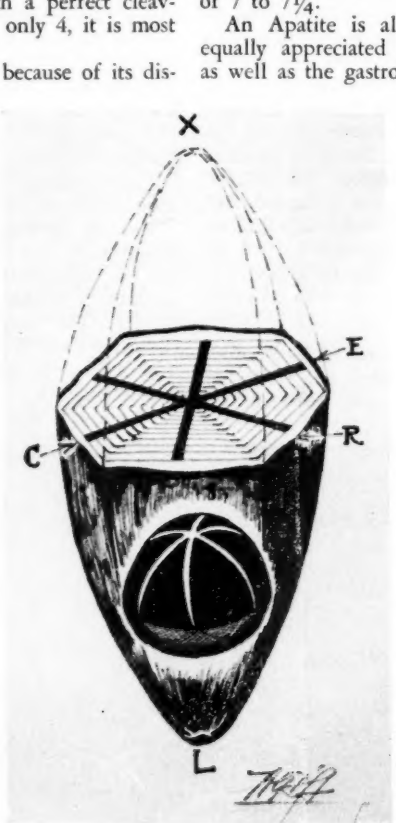
Pollucite is still another local gem and found also in Maine, although a small quantity is reported from Elba as well. It can only occur in colorless material. The hardness is 6½.

Fluorite is a mineral with a wide variety of uses, among which are: being used in the manufacture of opalescent glass; in enamels; in steel; and in the preparation of hydrofluoric acid. When it oc-

curs in transparent crystals however, it is cut into gems of various colors, i.e., colorless, yellow, green, blue, and reddish-violet. Red would be most rare indeed. At times, color banding may be seen which is normal. With a perfect cleavage and a hardness of only 4, it is most difficult to cut.

Danburite, so-called because of its discovery at Danbury, Connecticut, at times produces fine gems of colorless, yellowish, and wine-yellow hues. Similar in structure to Topaz, it is however lighter, and also slightly softer, with a hardness of 7 to 7¼.

An Apatite is always good to have, equally appreciated by the mineralogist as well as the gastronome. The common



Strange is it may seem, we owe the star in the Sapphire to decomposition through constant action (while still in situ) of chemically powerful rock juices, which eat out the inclusions in the sapphire crystal, thus leaving the minute tubes all nice and shiny. The better the "plumbing" job on the pipes therefore, the better and brighter the star.

In the accompanying diagram I endeavor to show what causes the star. A sapphire crystal XL is shown cut through to reveal the six-sided symmetry of the inner structure; the rough and rounded surface is indicated by R. The microscopic tubes lie parallel to the six prism planes, converging at the center. When a cabachon stone is cut with its base at right angles to the vertical axis, the light reflects from the tubes (as as CE etc.) onto the rounded surface thus producing the star. To produce the rare twelve-rayed star the crystal must be a twin.

The above drawing is of course diagramatic rather than after nature, for ease of portrayal.

From a drawing by the author.

color is yellow; greenish, bluish, or reddish are possibilities. With a hardness of only 5 it is not wear-resistant.

Sphene or Titanite is most remarkable owing to its high dispersion, this quality being greater than Diamond. The yellowish or greenish material is seen more often than the reddish, which latter is decidely more rare. Although very attractive, it is relatively soft, having a hardness of 5 to 5½.

Dioptase, an emerald-green copper silicate, is sometimes found in clear material suitable for cutting but only very rarely and then only in small size. The color is characteristic, and the hardness is 5.

Orthoclase is more or less of a mystery. The common color is a fine lemon-yellow, or it can be colorless in the form of Adularia. It can also be a fine Moonstone with an attractive sheen (blue preferred) or the familiar opaque green of Microcline. Oligoclase is the familiar opaque Sunstone, but on occasion giving us clear material. Labradorite (also opaque) is still another of this interesting Feldspar series, ranging in hardness from 5 to 6½.

Spinel. Here we have a relatively more interesting gem, considering it from the standpoint of color possibilities. The most valued stone is of course the deep red, which somewhat resembles Ruby. Almost any color of red may be had, as well as violet, blue, green, brown and yellow. Nearly colorless material is sometimes seen. The mineral is an oxide of Aluminum and other minor constituents. The hardness is 8. N. B. Asteriated material is known.

Axinite is very rare in good cut stones, scarcity of the clear axe-shaped crystals naturally being the reason. The better known color is clove-brown, though grey-blue or honey-yellow are admittedly existent. Hardness, 6½ to 7.

Benitoite, I suppose we all know, was found in California in 1907, and further, named for San Benito County. Why all chroniclers of gems continue to list these facts is beyond me, since everyone seems to be familiar with the details. Perhaps a future, and really courageous writer, will have the necessary mental stamina to forthwith abandon this useless verbosity. Suffice it to say that the preferred color is a rich, warm blue, and that a colorless gem is a possibility though rare. The hardness is 6½ at the maximum and sometimes slightly softer.

Euclase distinguishes itself by never having been found except in crystal form. It is commonly colorless to pale green or blue. The deeper shades of these colors are of course more highly prized. It is more durable than Quartz, being 7½ in hardness.

Datolite, in the same family of silicates, is also a gem possibility if the colorless, greenish, or yellowish crystals can ever be found in sufficiently clear and perfect material to cut. The hardness however is low, being only 5 to 5½.

Cordierite, Iolite, or Dichroite (for its strong dichroism) is rare in fine purplish-blue stones. This mineral, as well as Kunzite, Hiddenite, Tourmaline, Beryl, and also others, will show the phenomenon of selective wave length absorption by transmitted light, some of course to a greater or lesser degree than others. The Iolite for instance, will be nearly clear white if viewed in one direction, and of course blue in another. Hardness, 7 to 7½.

Rhodizite, besides being an extremely rare caesium borate gem possibility, is further noted for its hardness of 8 which equals that of Topaz. The color is usually pale yellowish-green.

Hambergite is another rare borate, sometimes producing colorless gem material. The hardness is 7½.

Enstatite, Bronzite, Hypersthene and Diopside are all gem possibilities in this interesting pyroxene group. The colors vary through odd shades of green and brown, though Diopside may also be a fine blue. The hardness is variable from 5 to 6.

Staurolite is usually thought of as the familiar opaque cruciform twins, but on rare occasions translucent to transparent material is found which is cut into small gems. The hardness is 7 to 7½.

Kornerupine, a rare boro-silicate, sometimes offers sea-green gem material. The hardness is 6½.

Cassiterite, the most important ore of tin, is the heaviest of all gem minerals, and is further noted for its high refrac-

tive index of 2.04, which is only exceeded by Sphalerite, Diamond, Anatase, and Rutile. The clear brownish or yellowish crystals are found at infrequent intervals. The hardness is 6 to 7.

Rutile, titanium dioxide, claims fame in having the highest retractive index of all gem stones. Transparent red material of suitable size to cut is scarce indeed. The hardness is 6 to 6½.

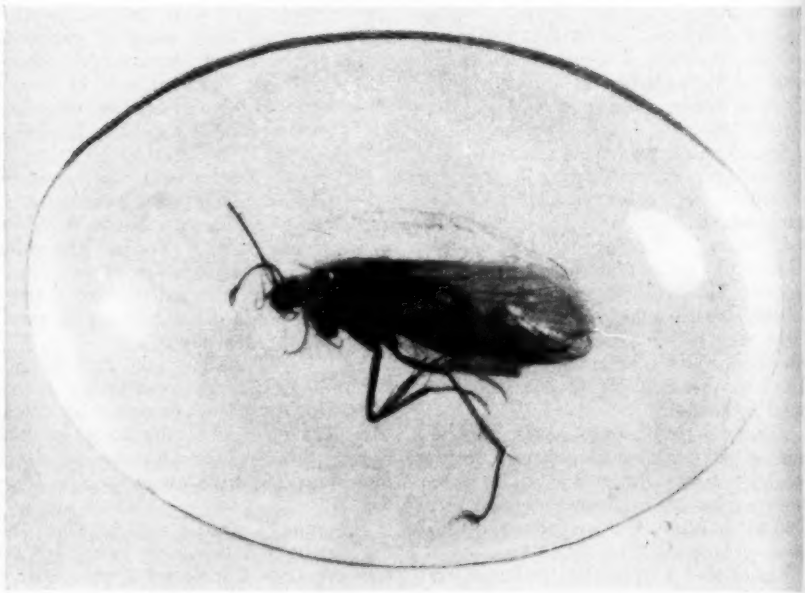
Octahedrite or Anatase is an extremely rare gem, indeed, one of the rarest. I am fortunate enough to be the owner of one, a 62 point, perfect, brilliant cut stone of brownish-yellow material. With a refractive index higher than that of Diamond it is remarkably brilliant. Naturally, this stone has a high place in my esteem, in fact doubly so since it was presented to me by my good friend, Martin L. Ehrmann, noted gemogist, of New York City. Greenish-yellow and blue are other color possibilities. The chemical composition is identical with that of Rutile. The hardness is 5½ to 6.

Azurite of translucent gem material may be found on occasion. My stone of 6.29 carats is of course unusual. With a hardness of only 3½ to 4, cutting is an arduous task.

Aragonite is another one of "those things." My brilliant cut, clear yellow stone of 2.05 carats is naturally quite an oddity. The hardness is the same as Azurite.

Barite, with a hardness of only 2½ to 3½ becomes toilsome indeed. My stone, of transparent material, is a high cabachon weighing 15 carats.

GEM AMBER WITH INSECT INCLUSION



Ten million years of solitary confinement! A golden brown insect poses for his portrait in clear honey-yellow amber. The subject is perfectly preserved as one can easily see. Indeed, it might have been one of his fellows who inspired the talented Egyptians in their art of mummification. Enlarged from the original.

D'Ascenzo Collection.
Photo. by Dillon, Philadelphia.

Gypsum, though sometimes transparent, can only be valued as a cut species because of the difficulty attending the cutting. With a hardness of only 1½ to 2 it is easy to see that we border on the ridiculous instead of the sublime, and I recommend its continued use as ornamental alabaster, fertilizer, and plaster of Paris.

Chondrodite, though an extremely rare gem possibility, deserves listing, as some transparent cut material is known. Garnet-red crystals have been found at the Tilly-Foster magnetite mine near Brewster, N. Y. This mineral is a basic fluosilicate of magnesium and has a hardness of 6 to 6½.

Before closing these interesting series of rarities however, I must list Moldavite and Silica-Glass, both amorphous substances, indeed, real glass. The former is found in Bohemia and Moravia, is about 80 per cent Silica, is a dark green color, and has a hardness of 5½. The latter is found in the Lybian Desert, is about 98 per cent Silica, is a pale yellowish-green, and has a hardness of 6. The exact origin of either is a complete mystery, but nevertheless volcanic.

Quartz. In this mineral we undoubtedly have greater possibilities for variety than in any other species. But owing to the fact that this article is primarily for the purpose of listing transparent gem material, we must necessarily omit the opaque varieties which are almost too numerous to mention, among which are the Moss Agate, Iris Agate, etc. (one of the finest of the latter that I have ever seen was presented to me by my friend, Mr. V. D. Hill, of Salem, Oregon.) Amethyst is without question the most valuable commercial Quartz gem. Reddish-purple is the desired color, but rarely seen in the jewelry store. The Citrine is the false Topaz; the Smoky or rich clear brown is the Cairngorm; the clear material is the well known Rock Crystal. At times this mineral is also asteriated, and only recently do we find it used to imitate the Star Sapphire, by cementing a blue mirror to the back of a cabachon-cut stone. The effect is quite striking and the simulation remarkably good. En garde!

But while I am on the subject of Quartz, it is impossible for me to close without relating a story, which by the way has for a moral, whatever you choose to deduce.

In the dimming but not too obscure past, when my daughter was but five, a friend brought me a rather large piece of the familiar petrified wood from Arizona. Josephine was naturally interested, and after dinner, while I sat absorbed in the evening paper, she came and climbed on my lap and wanted to know all about this marvelous wood that was now stone. I told her quite honestly that the petified forest of Arizona was undoubtedly the world's largest and most colorful Quartz collection. But being in a rather benign and expansive mood, to say nothing of the imaginative, I told her further that Mother Nature had apparently spilled the contents of at least a dozen paintpots over a grove of trees, and had then walked off, ordering poor, tired old Father Time to clean up the mess. "Did he?" she asked. "No," I said, "he did not. He just walked off and hid in a little gully to smoke his pipe, and continue his grumbling. Mother Nature however, being very busy with changing the Seasons just then, of course had no time to spare, probably rushing off to Wyoming to see that all the good little Dinosaurs were tucked in for a good winters' sleep. And now, Josey, you know you have always heard how absent-minded the men are, but Mother Nature went off and forgot all about the paint she had spilled on the trees, and she didn't come back for fifty million years! And when she did finally get back to Arizona she found Father Time sound asleep in what is now the Grand Canyon. In place of

her grove of beautiful trees she found a mound of earth. Quite vexed, she kicked at the mound, and lo and behold, there were her precious trees, all turned to stone! Father Time, awakened by all this commotion, rubbed the sleep out of his eyes to see what was going on, and seeing Mother Nature in such a fury, promptly fled to Siberia and has never been heard of since. Now, wasn't that interesting?"

The historic answer was, "Yes Daddy, but my goodness, how your gold tooth does sparkle!" Q. E. D.

Mrs. Samuel G. Gordon views a part of the petrified forest of Arizona with well deserved awe and respect.

Academy of Natural Sciences Photo. by Samuel G. Gordon

U. S. WELL SUPPLIED WITH INDUSTRIAL JEWELS

With imports of industrial jewels during 1940 having approximately doubled the quantity brought into the country during the previous year, the United States is practically assured, with proper conservation, of a year's supply of such stones for national defense purposes, Secretary of the Interior Harold L. Ickes was advised on Jan. 6, 1941, by Director R. R. Sayers of the U. S. Bureau of Mines.

Imports of jewels for use as bearings in aviation instruments, fire-control apparatus, watches, chronometers and other precision instruments amounted to approximately 44,000,000 valued at $913,000 in 1939, and rose to more than 80,000,000 valued at $1,500,000 during the first 10 months of 1940. Virtually all of these importations, despite war conditions in Europe, were from Switzerland .

The German Government, the Bureau of Mines pointed out, has placed restrictions upon exports of Swiss jewels, but thus far these restrictions have not been enforced. Swiss suppliers, however, have required that they receive sufficient bort (diamond dust or chips used for cutting and polishing) to make any jewels that they ship out of the country. Shipments of bort to Switzerland are watched carefully by the British Government, but the latter has recently approved small shipments in partial exchange for jewels required by American manufacturers, and it is reported that additional importations of Swiss jewels may be anticipated to supplement stocks already held in this country.

WATCH TRADE GREATEST USER

The largest use for industrial jewels in this country is for bearings in watches. The great bulk of watch jewels are simple ring bearings, tiny sapphire bushings with holes drilled straight through them. However, V-bearings and cupbearings likewise are used, and each of these three or more types may be called for in various sizes. Although diamonds have been used for bearings, corundum, which ranks next to diamonds in hardness, is used almost exclusively at present. For balances and certain other apparatus; agate plates and other shapes are used, this quality agate has been produced mostly in Brazil or Uruguay, and fabricated in Germany.

Corundum jewels are known as rubies, sapphires, or amethyst, according to their color and, although used in bearings for their hardness, color is advantageous. Natural sapphires and rubies for industrial use have been produced chiefly in Siam, Ceylon, and India, but substantial supplies can be mined in Montana and Australia.

INDUSTRIAL STONES CHIEFLY SYNTHETIC

Most of the industrial stones, however, are synthetic being made simply by melting in an oxy-hydrogen flame alumina containing a trace of coloring oxide. The alumina can be made from bauxite in the same way as that used to make aluminum metal but requires a slight additional purification on heating at a temperature high enough to expel traces of alkali metals. The powder is dropped at a controlled rate on the tip of the flame, where the temperature is around 2,400° C., and the melted material falls in drops through the rest of the flame, cooling to 1,900° C. as the drops build up, one upon the other, to form a pear-or cone-shaped mass called a "boule." The boules, which average 300 to 400 carats (say, ¼ ounce), are split in two and then sliced and cut into bearings and jewelry stones by means of steel tools charged with diamond dust (bort).

According to a recent statement, prewar European production of synthetic rubies and sapphires was said to have been from 750,000 to 1,000,000 carats a day, two-thirds of which were rubies and 75 percent of which were used industrially. The method of manufacture does not appear to have changed since its inception 40 years ago by Verneuil, and those who have experimented with it in this country see no reason why the United States could not make all the synthetic rubies or sapphires that it may need. Additional supplies of raw material can be obtained in Montana or by importation from non-European countries.

RHENIUM-BEARING MOLYBDENITE IN NORTHERN WISCONSIN

By MRS. L. P. WORKS
Green Bay, Wisconsin

Molybdenite, or molybdenum disulphide, is the chief mineral from which the metallic element molybdenum is obtained. This metal is particularly in demand at this time because of its need as an alloy in war manufacturing industries. Although our country does not mine enough for its own needs and much has to be imported, there are, however, many places where molybdenite is found in the United States. While most people interested in it, either as mineral collectors or as geologists, are aware of its occurrence in the New England states, in Colorado, and other localities, few know of its presence in Northern Wisconsin, near Middle Inlet. The writer has been told that molybdenite is found in other parts of Wisconsin but apparently in quantities not large enough to be mined.

HISTORY

The presence of molybdenite at Middle Inlet has been known to Mr. W. T. McCaskey, the owner, for thirty years. It was discovered when some rocks were blasted to build a logging dam on the Middle Inlet River which runs at the foot of the ridge. The remnants of this concrete dam can still be seen though the lumber industry has not been active there for years.

It was not until three years ago when Mr. McCaskey leased for mining, forty acres of his 1500 acre farm to a corporation, that any mining for the mineral was done. According to Mr. McCaskey, nothing was done during the first year of the lease and only hand-work the second year. Last fall, however, a twenty-ton oil flotation mill was installed and operated for a few months. The concentrated molybdenite that was shipped to New York ran 85%, Mr. McCaskey further stated.

LOCATION

The molybdenite mine is located approximately five miles northwest of Middle Inlet, a very small unincorporated town, about in the center of Marinette County and on U. S. Highway, 141, fifty-miles straight north from the city of Green Bay. (Amberg, a small village, is fifteen miles north of Middle Inlet.) Marinette County is in the northeastern part of the state and borders on Michigan.

GEOLOGY

The molybdenite occurs in quartz veins of varying widths running through granite which extends as a bluff, fifty to seventy feet high, for at least a half-mile. The prevailing color of the granite at the mine is red. The writer has been told by Mr. Ed. Gauthier, of this city, who is connected with the corporation, that molybdenite occurs throughout the whole bluff but that no survey has been made of it.

The red granite bluff, with its veins of milky and smoky quartz, one of the many granite outcroppings in Northern Wisconsin, also has some gold and silver ores, which occur but a few hundred feet away from the molybdenite mine. These ores, however, have not been commercially developed.

When the writer visited the molybdenite mine on Sunday, November 17, 1940, there was no mining being done. The plant was shut down and had been since early spring. To date, as far as the writer could find out, no thorough geological survey, such as diamond drilling, had ever been done, nor has there been any systematic determination of how much molybdenite may be present. In other words, the granite bluff has been mined only here and there, in irregular holes. It is not a developed mine. In the words of the miner. "It has just been gophered."

At the time the writer visited the mine, she met Mr. McCaskey who not only gave her much interesting information on the history of the mine but very graciously read a letter received from the Chemistry Department, of the University of Wisconsin, which requested one hundred

pounds of molybdenite for experimental purposes because the ore, a small sample of which had been previously examined by them, showed a large amount of rhenium, a rare element discovered in 1925.

MINERALOGY

Molybdenite is the chief mineral of interest to occur at the mine. It occurs in small flakes and foliated masses, greasy, metallic-gray in color, in red granite and is especially prolific in the smoky quartz veins where it sometimes is several inches thick.

In the granite it is very unevenly distributed in thin layers and in concentrated masses sometimes over an inch in diameter; again the tiny scales seem to be evenly distributed along with quartz and feldspar. In the quartz, the molybdenite may vary from thin sheets or flakes to veins which may be several inches thick.

Molybdite occurs sparingly as small pale yellowish incrustations on smoky quartz and on molybdenite of which it is an alteration product.

Reddish microcline, as a constituent of the granite; massive smoky and milky quartz, especially prevalent as veins in the granite; red hematite stains on quartz; and brown limonite stains also on quartz, are other minerals to occur at the mine.

DIRECTIONS FOR REACHING MINE

To get to this mine, approach from the north or south on U. S. Highway 141 to Middle Inlet. Turn west on Country Trunk X and follow County Trunk X for 3.35 miles to a granite quarry, turn north or right 1½ miles following a wood pole electric line, bear left or northwest ½ mile to the mine still following wood pole electric line. There is a small camp at the granite bluff known as Camp Five Farm where Mr. and Mrs. McCaskey, the owners, are at present making their home. The "Camp Five" refers to the former logging camp and lumber industry carried on at this site. This place has much to offer to all nature lovers and rock hounds with its four miles of trout fishing in the meandering Middle Inlet and tributaries, its blue berry hills, and its granite bluffs dotted with molybdenite, some gold and silver ores and perhaps other treasures.

ACKNOWLEDGMENTS

The writer is most grateful to Mr. and Mrs. McCaskey for their cordiality and aid in collecting the molybdenite specimens obtained and in giving so much of the above information.

Editor's Note: An excerpt from a letter received from Professor V. W. Meloche, Department of Chemistry, University of Wisconsin, reads as follows:

"Concerning the mineral molybdenite which was found at Middle Inlet, I can say that Mr. McCaskey has been kind enough to provide original material as well as concentrates. In these concentrates the rhenium has been found to the extent of fifty parts per million. Contrasting this to the natural sources for rhenium this is relatively high and we will continue our studies on the deposit in Middle Inlet."

E. W. BLANK HAS LEADING ARTICLE IN MAGAZINE

"Readers of *"Rocks and Minerals"* will no doubt be interested to learn that the leading article in the issue of *"The Journal of Chemical Education"* for November, 1940, entitled *"Lime and Lime Kilns"* was written by Mr. Eugene W. Blank of Colgate-Palmolive-Peet Company, Jersey City, New Jersey, and a well known and active member of The New York Mineralogical Club, The Plainfield Mineralogical Society, and the Rocks and Minerals Association. The article, which is well illustrated, deals with the history of lime burning in ancient and modern times in this and foreign countries, types of kilns, techniques employed, etc., and makes fascinating reading.

Mr. Blank will also be remembered for his many contributions to *"Rocks and Minerals"* which are always as interesting as informative."

A TRIP THROUGH THE SOUTH

By DR. L. PRESCOTT BROWN
Albany, N. Y.

During the Christmas vacation period, three of us, Dr. Worth, my son Prescott and I, took a trip through Virginia, North and South Carolina, and Georgia. We had planned it as carefully and completely as possible by route maps and by securing mineral and geological bulletins from the various states, when available, or from our State Library. This helped somewhat, but the best method yet discovered is to have definite sketches of localities such as Mr. Zodac always makes, or to locate someone who will take you to specific places. The haphazard search, even in a known area, is usually very discouraging. Likewise, old localities may prove very disappointing, such as 'Corundum Hill' in Macon County, North Carolina. We located the hill and the old mine, but our search was futile until we 'panned' some gravel in a stream and on getting home found some small but perfect crystals which we believe to be spinel (not magnetite), and one small eroded portion of a golden beryl crystal. Having visited the locality was well worth the time and effort, but tangible results were slight.

We visited the Barger quarry at Lexington, Virginia (see Rocks and Minerls, April, 1940) but the students from Washington & Lee University had preceeded us and good examples of pyrite were scarce. The three outstanding collections were made at the localities suggested by men in Spruce Pine, North Carolina (Mr. Bradley Johnson); Atlanta, Georgia (Mr. G. W. Withers) and Statesville, North Carolina (Mr. J. T. Walden).

At Spruce Pine we visited the quarries around Penland, collecting in order of importance; beryl (golden), mica inclusions of garnet, thulite, garnets and some uraninite. Lack of time and the weather prevented our visiting the innumerable quarries in the vicinity. One could spend a week to advantage here.

Going on toward Ashville, we stopped at Burnsville, known as the 'Gem City', according to a sign at a gasoline station, and talked with a young man who lives near 'Rays Mica Mine.' We exchanged a few specimens and then made a four star note to include this on another trip.

In Atlanta, we visited Mr. Withers and spent an entire morning in his beautiful store at 63 Broad St., N. W. He was very gracious, and despite our protests of taking too much time, he kept showing us specimens until we were dizzy—but pleasantly so. He also suggested that we visit two localities and I am sure he will not object to my mentioning them. At the Stone Mountain Quarries, at Stone Mountain, Ga., we obtained excel'ent fluorescent hyalite and some very fine, large, terminated black crystals of tourmaline.

On our way back North we stopped at Holly Springs, Ga., at the Verde Antique Quarry, where we were to look for apatite crystals between the talc and serpentine; although we did not find as large crystals as Mr. Withers had, we did get many small and perfect samples, together with small magnetite crystals in perfect octahedrons.

North of there, we visited the large marble quarries at Tate, Ga. At all these places we were hospitably received. The men at the quarries always seemed anxious to show us some choice specimens.

At Statesville, North Carolina, we had our best time, thanks to Mr. J. T. Walden. He has some very beautiful specimens of the minerals to be found in his neighborhood and seemed genuinely glad to welcome us,—absolute strangers; our common interest in mineralogy being the password. After examining his collection, we had but to name the variety we most wished to find and the trip was planned accordingly. In our short stay and again hampered by rainy weather, we were unable to do all we wanted, but we put our choices in order of importance. This was corundum; amethyst; zircon; rutile and beryl. We followed this series, except for the amethyst, which required a long walk, because the roads were too 'slick' following the rain. The

story of this experience would take pages and can be summarized only by saying that Mr. Walden is one of the finest characters I have ever met and the localities he took us to were highly fruitful. We shall never forget the zircon field. We drove off the main road a few hundred yards and looked over a field planted to Winter wheat. Here lying bare on the ground we found great quantities of ilmenite and about thirty zircons, brown crystals, averaging about one-half inch in size—some perfect—others broken. The largest measured one and one-quarter inches from tip to tip.

Certain general characteristics of this trip were remarkable, especially to us who live in eastern New York. Albany county has the distinction that not one bit of native igneous rock has ever been found. We have glacial deposists, limestone and shales in abundance. Crystals to be found in the neighborhood are limited to quartz, calcite and pyrite. Our nearest pegmatite quarry is sixty miles north at Batchellerville, and with this natural back ground we could not help but notice these great differences as we travelled in the South.

The road cuts here are through limestone or shale or gravel banks, while in the South we saw no gravel banks or pebbles except in some stream beds. There the road cuts usually exposed that characteristic reddish-brown clay, with occasional outcroppings of weathered feldspar.

This weathered feldspar and the 'rotten' character of so much of the exposed rocks of the South is especially interesting; for example take the description given by Mr. Zodac of Graves Mountain.[1] We were amazed at this evidence of weathering because it had been our idea that frost action was one of the greatest factors causing the disintegration of rocks. In the North, glacial action removed much of the surface rock, which had become weathered, leaving the more solid formations. In the South, the weathered rocks remain on top not having been scoured by glacial action.

Frost action may account for another factor and though I have no proof of this theory, it seems remarkable. We have probably well over one thousand crystals in our collection, and only one with an air bubble in liquid. Mr. Walden had perhaps a dozen specimens of enhydros amethyst alone in a collection of two hundred specimens. He told how a cold spell last year cracked many of his crystals which were on an outside porch. Comparing his percentage with ours and the fact that we find many fractured crystals, it may be presumed that the greater degree of cold and deeper penetration may account for fewer crystals with water inclusions in our famous localities in the North.

A third difference was in the shape of the hills. In New York we are accustomed to rounded hills and a rolling terrain, as compared with the sharp pointed, cone-shaped hills we saw through Southwestern Virginia and North Carolina. One of us remarked about this difference and asked what they reminded one of. The answer given by both and the one thought of by the questioner, was the same, a peak known as .'Owls Head' This is located on the road from Lake Placid to Keene Valley and is seen from Keene Valley, or better on coming down from Cascade Lakes toward Keene. It is the only example we know of that fits the picture. Glacial action undoubtedly was a big factor in rounding off our hills, but the lack of glacial action does not necessarily explain the shape of the hills and peaks seen in the South.

Before closing, certain suggestions should be summarized: Christmas vacation, while fine in some respects, is apt to bring rain and fog and this does not add to the comforts or pleasure of such a trip. Get specific information on localities to visit before leaving, either from one who has visited and recorded the location and minerals to be found; or, better still, make contacts with local people who have the common bond of interest in mineralogy. On all occasions, they seemed very happy to welcome us and were so hospitable that we felt embarrassed and we are still planning ways and means of returning their courtesies.

1 Graves Mountain, Georgia. By Peter Zodac. *Rocks and Minerals*, May, 1939, p. 135.

NEW ENGLAND NOTES

Conducted by Rudolf C. B. Bartsch
36 Harrison St., Brookline, Mass.

The Minerals of Massachusetts, with their occurrences and other information, is now being compiled and soon will be available in book form. The book will be edited by Prof. Charles Palache, of Harvard University. Descriptions will be in greater detail on the more unusual and newer minerals. Localities, both old and new, will be listed and sketches or maps will be included when possible to aid the collector in locating any particular place.

Now, in order that this volume may be as complete as possible, we are asking all collectors residing in Massachusetts and nearby states who have minerals from Massachusetts localities, to send us lists of same with their localities and if some of these specimens have been personally collected at spots new or difficult to find, sketches showing the way to locate them would be greatly appreciated. If a sketch is inconvenient, a description detailing route from some known center will help greatly.

And further it will help a great deal if you will designate whether the particular mineral is massive, crystallized, etc., and with what associated. Also whether it is scarce, uncommon, common, plentiful, if in crystals (micro, small, medium, or large). Is the locality now being worked, and if not how long since operations have stopped; in other words what are the conditions at the locality at the present time? If it is not a regular working operation, describe type of locality.

The most important factor of all is for everyone to do his part. Don't fail to send in your information just because you think there are others that may have the same information. If everyone takes this attitude there will be no data available. The editor and his assistants will take care of any duplication that may occur. Send your data to either the writer or to Prof. Charles Palache, c/o Harvard Mineralogical Museum, Harvard University, Cambridge, Mass.

So, fellow collectors, it's up to you whether or not we succeed in making this book an exceptionally good aid to collecting in Massachusetts.

The demand for mica and feldspar is so great that many of the quarries in New England have been working all through the winter though the weather has been unusually severe. Reports of new operations are coming in and as soon as information is available on minerals and localities will present the same in later issues of this column. A collector friend has just reported a visit to the Portland, Conn., locality: "six inches of snow, but much interesting material is available on the dumps".

Portland, Conn.:.. Mr. George E. Wilkes, Foreman of the Huse-Liberty Mica Co. shop at Gildersleeve, near Portland, who used to be connected with many of the feldspar quarries in the state, can recall many interesting incidents regarding minerals that he has seen. In a letter to the Editor of ROCKS AND MINERALS: he writes: "In a recent issue you mention chlorophane being found in East Hampton, Conn. Well, about 30 years ago, when I was foreman of the old Gillette quarry at Haddam Neck, Conn., I used to have that stuff by the cigar boxful and we used to put it on the stove at night to entertain our children.

'I used to give away in those days, to anyone who admired them, crystals of green tourmaline that were from 4 to 6 inches long. Now, all I have is a necktie pin with about a 10 carat stone in it.

"At the Strickland quarry, near Portland, there was found in 1938, some snow-white amblygonite. The mineral occurred in one pocket only----but 5 tons of it were taken out and all thrown away on the big high dump. The amblygonite may now be iron-stained and difficult to find."

We wonder how many collectors have passed over the amblygonite under the impression that it was massive albite!

CLUB AND SOCIETY NOTES

Northern California Mineral Society

The Annual Banquet of the Society was held on January 17 at the Elizabeth Inn, San Francisco. The following officers and directors elected for the calendar year 1941 were installed:

I. Harold Soper, President,
E. A. Robertson, Vice-President,
A. L. Rogers, Secretary,
M. W. Hanna, Treasurer,
C. A. Bryant, Curator,
Mrs. Harriet Thompson, Librarian,
A. C. Davis, Director,
W. N. Lamore, Director,
Stanley Snead, Director.

The guest of honor was Dr. Austin F. Rogers of Leland Stanford University, a life-member of the Society. We always feel honored when he appears on one of our Monthly Programs held at the Public Library in the Civic Center, San Francisco.

Another guest was Mr. Orlin J. Bell, President of the East Bay Mineral Society which will be the host for the Sixth Annual Convention of the California Federation to be held at Oakland May 10-11, 1941. We have more than a neighborly interest in this Society. When it was organized many of our members who lived on that side of the bay joined it for convenience. Many of their members are our intimate friends and we often visit and take field trips together. One of these in particular is Mr. Wilfred Eyles, of Hayward. He has given very generously of his time to both of our Societies. As a companion on a long rough field trip he has no equal, in my estimation from actual experiences.—O. H. FREY.

Bridgeport Mineral Club

The program at the February meeting of the Bridgeport Mineral Club, was quite unusual.

One of our members, Mr. Arthur Sandiford, gave a lecture demonstration of micro chemistry as applied to minerals.

The more dazzling pictures, such as silver chromate with its wonderful colors were shown first. Then followed slides showing the displacement of silver and lead by zinc. With the silver and lead a characteristic tree is formed. A brief discussion of the displacement series took place at this point. Next, the hydrogen sulphide of micro chemistry, namely, potassium mercuric thiocyanate, with its characteristic and beautiful crystals formed by reactions with zinc, cadmium, cobalt, and copper salts was displayed. Finally the tests for platinum with sal ammoniac and benzidine were shown.

This microprojection display has been made possible for the beginner by the use of the inexpensive motion picture lamp as a source of light.

Mineralogical Society of Arizona

During January, the Mineralogical Society of Arizona held three meetings on the 2nd, 16th and 30th, and two field trips, on the 5th and 19th.

At the meeting on the 16th, Mr. John Hilton, author and artist; Mr. Harlow Jones, color photographer; and Mr. Max Felker, diamond tool manufacturer, were guests. Mr. Hilton, author of many articles on semi precious stones and stories of the trips to famous collecting localities in the Southwest, which appear regularly in the *Desert Magazine,* gave an illustrated talk on some of the collecting areas. Mr. Jones showed several reels of natural color movies taken in the desert country and on Lake Mead. Mr. Felker gave a short talk on the part played by industrial diamonds in the present preparedness program. The Arizona Museum lecture room was filled to capacity by members, their friends, and visiting mineralogists.

At the meeting on the 30th, several fine specimens and micro mounts of dioptase and caledonite, recently found at the old Mammoth mine, Mammoth, Arizona, were displayed.

Field trips have been made to some of Arizona's little known agate fields. On the 5th, the Dixie and Fourth of July Butte fields were visited by a large group which included several visiting mineralogists who are spending the winter in the Valley of the Sun. The Dixie field is a relatively new area in which "clam-shell geodes" (See Rocks and Minerals, July, 1940, p. 236) are found. This new material is proving very interesting because of a new type of inclusions in some of the geodes.

On the 19th the group stopped first at the Skunk Creek agate field where delicate pink and white agates together with a small amount of moss agate is found. After lunch the party moved on to the Maricopa agate field, described by John Hilton in the May, 1939, issue of the *Desert Magazine.*

—A. L. FLAGG.

Newark Mineralogical Society

A regular monthly meeting will be held Sunday, March 2nd, at 468 Orange St., Newark, N. J., at 3:00 p.m., and the program will be on Calcites—various crystal forms. Visitors are welcome.

Western Nevada Mineral Society

A new mineral club, the Western Nevada Mineral Society, was recently organized in Reno, Nevada. The officers elected are:

Frank L. Garaventa, President,
Bob White, Vice-President,
A. Cornely, Secretary-Treasurer,
Miss Kirkley, Director,
Miss Parr, Director,
Mr. Allen, Director,
Mr. Garason, Director.

Aside from collecting minerals, the club will also specialize in lapidary work.

The club is most fortunate in the selection of its first president as Mr. Garaventa is not only a mineralogist with many years' experience but is also one of the most widely known and popular collectors in the State of Nevada.

Our best wishes are extended to this new organization for a long, happy and most successful life in its endeavor to popularize mineralogy in its section of the state.

Reno is not a large city but it boasts two mineral clubs, the above and the Reno Rocks and Minerals Study Club and both are affiliated with the Rocks and Minerals Association.

New Haven Mineral Club

The Club now meets in a room directly off from the Cafeteria of the Y.W.C.A. on Howe St., New Haven, on the second Monday of the month. A large number of the members also meet in the Cafeteria at 6:30 p.m., for dinner (on the day of the meeting); these dinners are proving very popular.

In October, 1940, a chemistry class was organized with Prof. Arthur Sandiford of Morningside, Milford, Conn., as Instructor. This class now has 20 active members who are intensely interested in acquiring technique and knowledge in identifying their unknown specimens.

Plainfield Mineralogical Society

A regular meeting of the Society will be held on Tuesday, March 4th, at 8:00 p.m., in the Plainfield Public Library, Plainfield, N. J. The program for the evening will be on Micromounts, which will be conducted by a number of micromount collectors. A representative of a Microscope company will display and explain a number of types of microscopes.

On Sunday, March 16th, a field trip will be made to the home of Mr. John C. Pohl, 204 N. 10th St., Easton, Penn., to see and examine a most interesting mineral collection.

OBITUARY NOTICE

It is with much sorrow that we announce the passing of the following collectors, all members of the Rocks and Minerals Association.

Dr. L. C. Wills, of Philadelphia, Penna.

Dr. Wills was one of America's most noted micromount collectors and his article "The Preparation of Micro Mounts" which appeared in the December, 1931 issue of *Rocks and Minerals* was a masterpiece that had thrilled many collectors.

Dr. Wills joined the Association on October 22, 1930.

Herbert L. Thowless, of Newark, N. J.

Mr. Thowless became a subscriber to *Rocks and Minerals* two months before the first number made its appearance (our 93rd subscriber) and his subscription never lapsed. A good loyal friend of the Association and magazine, always friendly, courteous and helpful, his passing is a severe blow to us.

Herman Wuestner, of Cincinnati, Ohio.

Mr. Wuestner was one of our most valued members and friends not only for his numerous articles on the minerals of Ohio and New Mexico but also for his loyal interest in the Association and magazine. He was instrumental in bringing us many new members and in inducing old ones to rejoin.

Mr. Wuestner became a subscriber of the magazine on February 21, 1927 about a year before the Association was founded.

Miss Evelyn F. Murray, of Westfield, N. J.

The Association suffers another loss in the death of Miss Murray (on December 6, 1940) who was a loyal member for many years.

Miss Murray joined the Association on November 7, 1929.

COLLECTOR'S KINKS

REMOVING CLAY FROM CRYSTALS WITH OXALIC ACID

It frequently happens that we obtain quartz and other crystals which are so coated with yellow clay as to mar their appearance. This clay is at times so strongly attached to the crystals that ordinary means do not remove it. Boiling such crystals with oxalic acid sometimes improves their appearance. The following is one test that was made in this way.

Into an old can containing 1½ cupfulls of water, 1 teaspoonful of oxalic acid crystals (obtainable at drug stores) were added and then into this solution were dropped the following crystals: 2 corundums from South Carolina, 2 epidotes from Alaska, 2 garnets from Connecticut, 2 amethysts from North Carolina and 2 rock crystals from New York ----all heavily coated with yellow clay.

It was our intention to have the water boil for 30 minutes but this test lasted only 20 because at the end of that period the water had boiled off so much that many of the crystals were exposed.

At the end of 20 minutes, therefore, the can was removed from the stove and the water allowed to cool, after which the crystals were taken out, rinsed thoroughly in clean water, and then set aside to dry.

On examination later it was found that the crystals had greatly improved in appearance though the clay did not entirely disappear except in its color. The "yellow" of the clay had entirely disappeared and in its place a "white" clay remained.

We would be glad to hear of any experiments made by our readers to improve the appearance of their specimens.

American Museum Lectures

The American Museum of Natural History, Department of Education, Offers a Free Course of Four Informal Talks on

THE STORY OF JADE

By HERBERT P. WHITLOCK, Curator of Minerals and Gems

Given Saturday Afternoons at 4:00 p.m., APRIL 19, 26 and MAY 3, 10, 1941

Room 319, Roosevelt Memorial of

THE AMERICAN MUSEUM OF NATURAL HISTORY

Central Park West at 79th Street, New York, N. Y.

POPULAR TALKS
on
THE STORY OF JADE

April 19
JADE: THE MANY COLORED JEWEL OF HEAVEN
Deals with the sources of Chinese jade; its various colors and the primitive methods employed by oriental artists in carving it.
(Lantern Slides)

April 26
THE JADE OF OLD CHINA
The story of early Taoist ceremonial jade pieces and the symbolism that they express.
(Lantern Slides)

May 3
TAOIST SYMBOLS IN CARVED JADE
Deals with the Tao'st symbols that mark the jade carvings in the middle and late periods of Chinese glyptic art.
(Lantern Slides)

May 10
THE INFLUENCE OF BUDDHISM ON CHINESE CARVED JADE
Introduces the wealth of myth and legend that found expression in the Buddist symbolism of Chinese Jade in modern and semi-modern times.
(Lantern Slides)

WITH OUR DEALERS

The Dekro Mineral Company, of 7029 Lincoln Drive, Philadelphia, Penna., has recently issued an advance price list (4 pages) in which are offered some interesting and attractive minerals. The minerals are listed in 1", 2", 3", 4" sizes; 1" size by the dozen; and in some cases in pound lots. Send for your copy of this price list TODAY!

The Gem Shop, of Box A797, Helena, Mont., is mailing copies of its new Supplement 60B to everyone on its large list of 9,000 names. Is your name on its list? It should be if you are interested in receiving notices of choice mineral specimens at very attractive prices.

Reports are trickling into our office of the very attractive layout and large assortment of fine minerals and gems in the establishment of Withers of Atlanta, 63 Broad St., N. W., Atlanta, Ga. If you have never received an assortment of minerals from this firm why not send them a check for $5 for a selection from their large stock?

W. T. Baxter, of 4615 Chase Ave., Bethesda, Md., informs us that the Fourth printing of his book, *Jewelry, Gem Cutting and Metalcraft,* is to be made soon. Is this fascinating book on your bookshelf? It ought to be!

Mr. Baxter, by the way, had a very interesting 3-page article on "Heart-shaped Jewelery" in the March, 1941, issue of *Popular Science.* Have you seen it?

Frank Morse, proprietor of the Colorado Gem Co., Bayfield, Colo., reports a trip he made recently to Arizona, New Mexico, and Mexico during which many interesting minerals were collected to increase further his fine stock of choice minerals. Perhaps he may be induced to send us some notes on his trip.

A selection of six interesting gold ores, in an attractive box and accompanied by a little booklet of 16 pages, was recently received from Hardrock, 710 Federal Blvd., Denver, Colo. These gold ores come from famous Rocky Mountain mines, some of which are described in the booklet. As this little collection is priced at only 25c, how can anyone go wrong when ordering it! Better order yours today!

Mark M. Foster, of Palo Cedro, Calif., is offering something new—a salt of uranium (looks like autunite) on common opal. The salt (not yet identified) has a brilliant fluorescence—we know for sure—as we have tried it under our various lamps.

W. Scott Lewis, the popular dealer of 2500 N. Beachwood Dr., Hollywood, Calif., is gaining new laurels with his very interesting *MINERAL BULLETIN* which comes out monthly. This very newsy, up-to-the-minute bulletin costs but 25c for a year's subcsription. Better rush your two-bits to Mr. Lewis and have him enter your name on his subscription list.

The Annual Mineral Exhibition and Sale (of Arthur Montgomery) that was conducted this year (Jan. 17th and 18th) by Alvin and Raymond Schortmann (Schortmann's Minerals) of Easthampton, Mass., was a grand success. We shall have more to say about this in the next issue of the magazine.

In the January, 1941, issue of Ward's *Mineral Bulletin,* a Mineral Identification Table was featured for the convenience of collectors. For those collectors who enjoy applying various physical, optical and chemical tests to known or unknown minerals, the identification table outlined in the bulletin suggests a systematic method in which this can be done. Aside from the Identification Table, the bulletin is devoted to describing some recent additions of minerals. It is issued by Ward's Natural Science Est., Inc., 298 Goodman St., North, Rochester, N. Y. If you haven't received your copy of this interesting bulletin it is because your name is not on their list. Better send it in.

. . Collectors' Tales . .

By PETER ZODAC

BETTER BE SURE THAN BE SORRY!

One of the drawbacks to me for a happy collecting trip to an abandoned locality during the summer is the fear of running across snakes. I cannot bear them. There is something about a snake that more or less paralyzes me when I run across it. It has been my belief that the best way to scare them off is to make a lot of noise and this I was want to do. One day, however, an incident occurred which shattered my faith in noise.

I was out this day with two collectors and the first place we stopped at was along the Bear Mountain Bridge road, about three miles north of Peekskill, N. Y. At this locality large masses of stilbite, which often contained green apatite crystals an inch or more in length, were found when the road was under construction some years ago. We managed to run across four or five large masses of the mineral at a point about 30 feet below the road----at the bottom of the road slope.

We must have spent about 15 minutes hammering away at these masses----making lots of noise, of course----when I decided to do some more scouting after additional material. I did not go 10 feet when my desire to explore terminated abruptly. In my effort to go a few feet higher, I was about to lay my hand on a rock ledge above me, that sloped inward, when something made me draw it back quickly. Rising on my toes, I peered over it—right into the face of a large coiled copperhead. My interest in minerals, stilbites and apatites ended then and there and with a cry which startled my companions, I sprang back and rushed toward them.

We did not tarry longer to determine whether the snake had been there all the time or if our hammering had attracted him or if any others were in the vicinity. We scrambled up that bank as quickly as we could and never went back there again.

CARELESS RECORDING OF LOCALITIES

(Continued from page 74)

mens. On our first visit to the area we were directed to what we thought was the Oneco quarry but found that all the equipment, trucks, etc., bore the name Marriott and Son, so it must be the Marriott quarry. On our second visit we learned that Marriott & Son had bought the Oneco quarry and were working it (the one which we had first visited) and that their original one had been abandoned. Here is an instance how a quarry might receive a wrong name by a careless collector.

There is an old abandoned magnetite mine near Peekskill, which is known as the Hopper mine, Travis Corners mine, Edison Mine, Nelson Mine, and Canopus Mine. When this mine appears in print, its five names should be given.

Another source of confusion arises when a mine or quarry is situated near a county or state line and its nearest post office is in the adjacent county or state. Or worse still, the mine or quarry could be right on the line.

These are but a few instances how mines or quarries are often incorrectly, loosely or carelessly recorded. There are many others which we might mention in a later editorial.

Peter Zodac

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Rate 10c per word; minimum 10 words. Remittance must accompany copy in all cases. Advertisers must furnish satisfactory references before their advertisements will be inserted. Forms close the 1st of every month.

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Handbook For the Amateur Lapidary by J. H. Howard, 16 chapters covering all phases of gem cutting and polishing, 141 pp., 44 illus., price $2.00. J. H. Howard, 504 Crescent Ave., Dept. R., Greenville, S. C.

How to Collect Minerals. By Peter Zodac. A guide book for the collector, 80 pp., 15 ills., $1.00. Rocks and Minerals, Peekskill, N. Y.

Fifty Back Numbers of Rocks and Minerals Magazine, all in good condition and all different, $10.00. If you have back numbers send a list of them with your order and we will try not to duplicate any of them. Rocks and Minerals, Peekskill, N. Y.

FOSSILS

Fossils, Minerals, Old Arms, Indian Beaded Trappings. prehistoric specimens, general line of curios. Lists 10 cents. N. E. Carter, Elkhorn, Wisc

EXCHANGES

I WANT TO EXCHANGE MINERALS. CAN OFfer fayalite, forsterite, thorite, triphylite, heterosite, manganapatite for good specimens from other localities. Gunnar Ejareby, 147 Worthington St., Boston, Mass.

LAPIDARY SERVICE & SUPPLIES

Diamond Saws Cut At Least Five Times Faster than any other type of saw. They use less power, are cleaner to operate and absolutely safe, and what is most important for per square inch of material cut, they are far cheaper. We are prepared to stand back of these statements. Eventually you will use one. Full directions for use with each saw. Free lessons and demonstrations given local purchasers. Prices 8" $5.50; 10" $6.50; 12" $7.50. Larger sizes on request. Wilfred C. Eyles. 794 W. A St., Hayward. Calif.

MINERALS

Opalized Shells: about 100 (partly broken) @ 25c each. Assorted Opal Specimens: for collectors, $1.00 dozen. Cutting Opal for Lapidaries: $1.00 to $10.00 oz. Large Queensland Boulder Opal: vivid colours, $1.00 to $10.00 upwards. Faced "Black" Opals: 1000 small specimens, 50c each. Norman Seward, "Opal House", Melbourne, Australia.

Scott Rose Quartz Co.—Rose Quartz, Black Hills specimens, all kinds and colors; for rock gardens, cabinets, etc. Boxes: 24 specimens, $1.00; 18 specimens, 50c; 15 specimens, 35c. Postage paid. Box 516, Custer, S. Dak. Send stamp for price list.

Ten Year Accumulation Stones removed from jewelry. Advise kind you collect or use. Prices range from 1c to $1.00 each. Send $2.00 and we will send an assortment from which you can select. B. Lowe, Box 525, Chicago, Ill.

MINERALS

Millerite from Milwaukee Wisconsin. Bened.ct P. Bagrowski, 1014 Vt., Lawrence, Kansas.

Gold Ore Specimens: Six genuine samples from famous mines, with descriptive booklet, only 25c. Hardrock, 710 Federal Blvd., Denver, Colo.

Minerals, Fossils, Indian Relics, Books, Coins, Curios, Stamps. Old Glass. Catalogue 5c. Indian Museum, Osborne, Kansas.

Uvarovite—Choice specimens. Minute brilliant emerald-green crystals coating ore. For details write: H. Goudey, Jamestown, Calif.

"The Finest in Tri-State Specimens: Octahedral Galenas, Ruby Sphalerite, Spearpoint Marcasites, Twin Sphalerite xls, Calcite groups, bulk ores, Cerussite xls. Write for prices, Boodle Lane, Box 45, Riverton, Kansas.

New England minerals for sale or exchange. Correspondence solicited. Rudolf C. B. Bartsch, 36 Harrison St., Brookline, Mass.

Mineral Specimen Cabinets—15 to 100 specimens. Prices 35c to $10.00. Cabinet specimens—free price list. Charles O. Scott, 739 Colorado Ave., Trinidad, Colorado.

Arizona Minerals for sale and exchange. Luther Steward, Phoenix, Arizona.

PYROMORPHITE—Green xls encrusting quartz, 10c to $1.00. Dekro Mineral Company, 7029 Lincoln Drive, Philadelphia, Pennsylvania.

12 Mexican or Australian Opals, assorted, $1.00. 12 Genuine Cameos, $1.50. B. Lowe, Box 525, Chicago, Ill.

SPECTROSCOPES

Spectroscope For Quick Ore Analysis $2.50. Cuffing Sons, Campbell, Calif.

MISCELLANEOUS

Prospector's Picks #52 Warwood. One or two pounds. $1.25 postpaid. Dekro Mineral Company, 7029 Lincoln Drive, Philadelphia, Pennsylvania.

Attractive South Sea Coral. Lace 50c, Branch 45c, Mushroom 40c. Rare plate coral $1.50 each. Fred W. Sprung, R No. 1, Box 566, La Canada, Calif.

Wanted Immediately—Used equipment to set up amateur lapidary shop, K. J. Albrecht, U. S. Patent Office, Washington, D. C.

Valuable Quicksilver Property in southwest United States for sale or lease. T. T. D., c/o Rocks and Minerals, Peekskill, N. Y.
Service, 1815 Lyndale, Minneapolis, Minn.

Wanted: Books, one each, Merrill's, **Non-Metallic Minerals.** Ladoo, **Non-Metallic Minerals.** Bayley, **Elementary Crystalliography.** M. R. Thompson, Bureau of Mines, Norris, Tenn.

SEND US WHATEVER GOLD OR PLATED broken or discarded jewelry, spectacles, watches, gold teeth, etc., you have and we will send a good selection of stones. B. Lowe, Box 525, Chicago, Ill.